ORDER NO. MD0401014C1

A6

Service Manual

Active Subwoofer System

SB-WA720PP

Colour

(S)...Silver Type

SPECIFICATIONS

Specification

■ **Active subwoofer**

Type	**1 way, 1 speaker system (Bass reflex)**
Speaker unit	**Impedance 4 Ω**
Woofer	**17 cm (6-3/4") Cone type**
Output sound pressure	**80 dB/W (1.0 m)**
Frequency range	**32 Hz-220 Hz (-16 dB)**
	36 Hz-190 Hz (-10 dB)
Dimensions (W x H x D)	**209 x 361 x 463 mm**
	(8-7/32" x 14-7/32" x 18-7/32")
Mass	**11.7 kg (25.8 lb.)**

■ **General**

Power consumption	**340V**
Power supply	**AC 120V, 60Hz**

Note :
Specifications are subject to change without notice.
Mass and dimensions are approximate.

SB-HT720P-S consists of :
SB-FS520P-S x 2, SB-FS720P-S x 2 and SB-PC720P-S x 1

■ **System : SC-HT720 (P)**	**Music Center: SA-HT720 (P)**
	Satellite Speakers: SB-HT720 (P)
	Active Subwoofer: SB-WA720 (PP)
■ **System : SC-HT720 (PC)**	**Music Center: SA-HT720 (PC)**
	Satellite Speakers: SB-HT720 (P)
	Active Subwoofer: SB-WA720 (PP)

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⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public.
It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.
Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

Panasonic

1. Safety Precautions

1.1. GENERAL GUIDELINES

1. When servicing, observe the original lead dress. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.

2. After servicing, see to it that all the protective devices such as insulation barriers, insulation papers shields are properly installed.
3. After servicing, make the following leakage current checks to prevent the customer from being exposed to shock hazards.

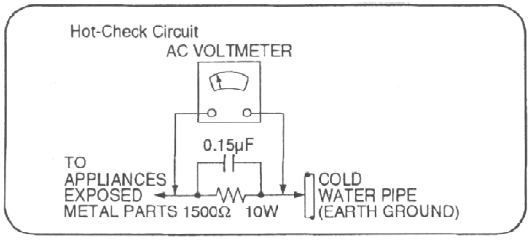
(This "Safety Precaution" is applied only in U.S.A.)

1. Before servicing, unplug the power cord to prevent an electric shock.
2. When replacing parts, use only manufacturer's recommended components for safety.
3. Check the condition of the power cord. Replace if wear or damage is evident.
4. After servicing, be sure to restore the lead dress, insulation barriers, insulation papers, shields, etc.
5. Before returning the serviced equipment to the customer, be sure to make the following insulation resistance test to prevent the customer from being exposed to a shock hazard.

1.1.1. LEAKAGE CURRENT COLD CHECK

1. Unplug the AC cord and connect a jumper between the two prongs on the plug.
2. Measure the resistance value, with an ohmmeter, between the jumpered AC plug and each exposed metallic cabinet part on the equipment such as screwheads, connectors, control shafts, etc. When the exposed metallic part has a return path to the chassis, the reading should be between 1M Ω and 5.2 Ω . / When the exposed metal does not have a return path to the chassis, the reading must be ∞ .

Fig. 1



1.1.2. LEAKAGE CURRENT HOT CHECK (See Figure 1.)

1. **Plug the AC cord directly into the AC outlet. Do not use an isolation transformer for this check.**
2. **Connect a 1.5k Ω , 10 watts resistor, in parallel with a 0.15 μ F capacitors, between each exposed metallic part on the set and a good earth ground such as a water pipe, as shown in Figure 1.**
3. **Use an AC voltmeter, with 1000 ohms/volt or more sensitivity, to measure the potential across the resistor.**
4. **Check each exposed metallic part, and measure the voltage at each point.**
5. **Reverse the AC plug in the AC outlet and repeat each of the above measurements.**
6. **The potential at any point should not exceed 0.75 volts RMS. A leakage current tester (Simpson Model 229 or equivalent) may be used to make the hot checks, leakage current must not exceed 1/2 milliamp. In case a measurement is outside of the limits specified, there is a possibility of a shock hazard, and the equipment should be repaired and rechecked before it is returned to the customer.**

2. Handling the Lead-free Solder

2.1. About lead free solder (PbF)

Distinction of PbF P.C.B. :

P.C.B.s (manufactured) using lead free solder will have a PbF stamp on the P.C.B.

Caution:

- **Pb free solder has a higher melting point that standard solder; Typically the melting point is 50 - 70°F (30 - 40°C) higher. / Please use a high temperature soldering iron. In case of the soldering iron with temperature control, please set it to 700 ± 20°F (370 ± 10°C).**
- **Pb free solder will tend to splash when heated too high (about 1100°F/600°C).**
- **When soldering or unsoldering, please completely remove all of the solder on the pins or solder area, and be sure to heat the soldering points with the Pb free solder until it melts enough.**

3. Before Repair and Adjustment

Disconnect AC power, discharge Power Supply Capacitors C546, C547, C548, C549 through a 10 Ω, 1 W resistor to ground.
DO NOT SHORT-CIRCUIT DIRECTLY (with a screwdriver blade, for instance), as this may destroy solid state devices.
After repairs are completed, restore power gradually using a variac, to avoid overcurrent.
Current consumption at AC 120V, 60Hz in NO SIGNAL mode should be ~500 mA .

4. Protection Circuitry

The protection circuitry may have operated if either of the following conditions are noticed:

- No sound is heard when the power is turned on.

- Sound stops during a performance.

The function of this circuitry is to prevent circuitry damage if, for example, the positive and negative speaker connection wires are
"shorted", or if speaker systems with an impedance less than the indicated rated impedance of the amplifier are used.
If this occurs, follow the procedure outlines below:

1. Turn off the power.

2. Determine the cause of the problem and correct it.

3. Turn on the power once again after one minute.

Note :
When the protection circuitry functions, the unit will not operate unless the power is first turned off and then on again.

5. Connection of the Speaker Cables

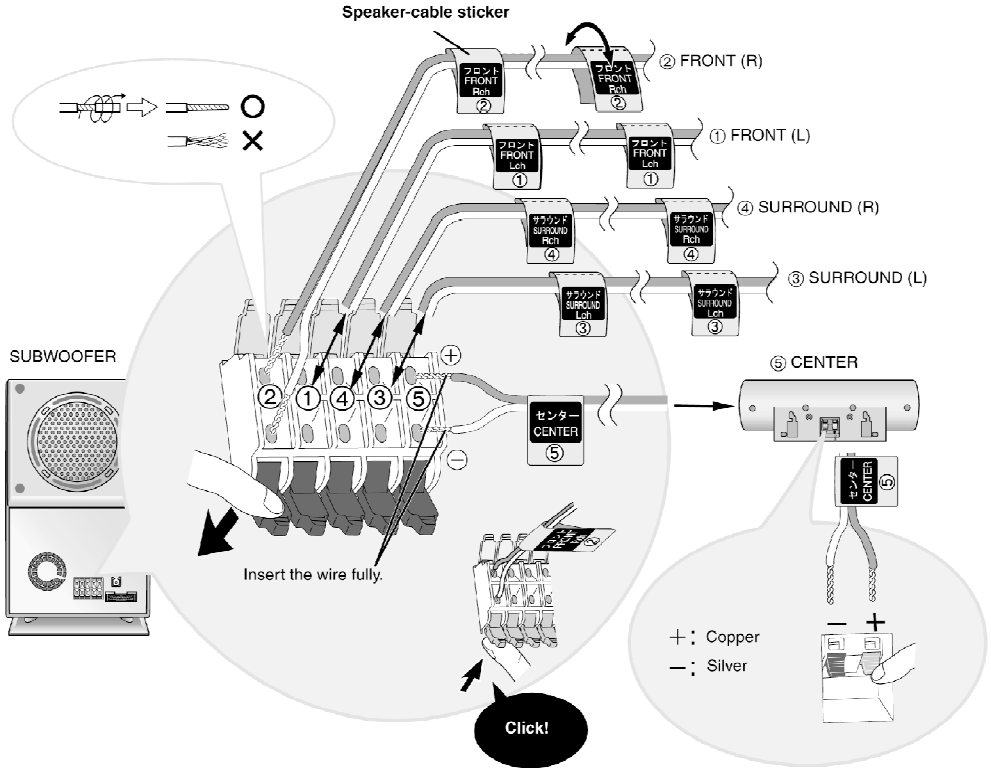
- Be sure to connect speaker cables before connecting the AC power supply cord.

- The load impedance of any speaker used with this unit must be 4 Ω .

- Be sure to connect the cable from the right speaker to the right terminal and the cable from the left speaker to the left terminal.

1. Strip off the outer covering, and twist the center conductor. Make sure the bare ends of the wires are not unravelled. (If they are, twist them tight again.)

2. Insert the wire to the rear panel of the unit and close the lever.



Notes :

- To prevent damage to circuitry, never short-circuit positive (+) and negative (-) speaker wires.

- Be sure to connect only positive (Copper) wires to positive (+) terminals and negative (Silver) wires to negative (-) terminals.

6. Disassembly Procedure

“ATTENTION SERVICER”

Some chassis components may have sharp edges.
Be careful when disassembling and servicing.

1. This section describes procedures for checking the operation of the major printed circuit boards and replacing the main components.

2. For reassembly after operation checks or replacement, reverse the respective procedures.
Special reassembly procedures are described only when required.

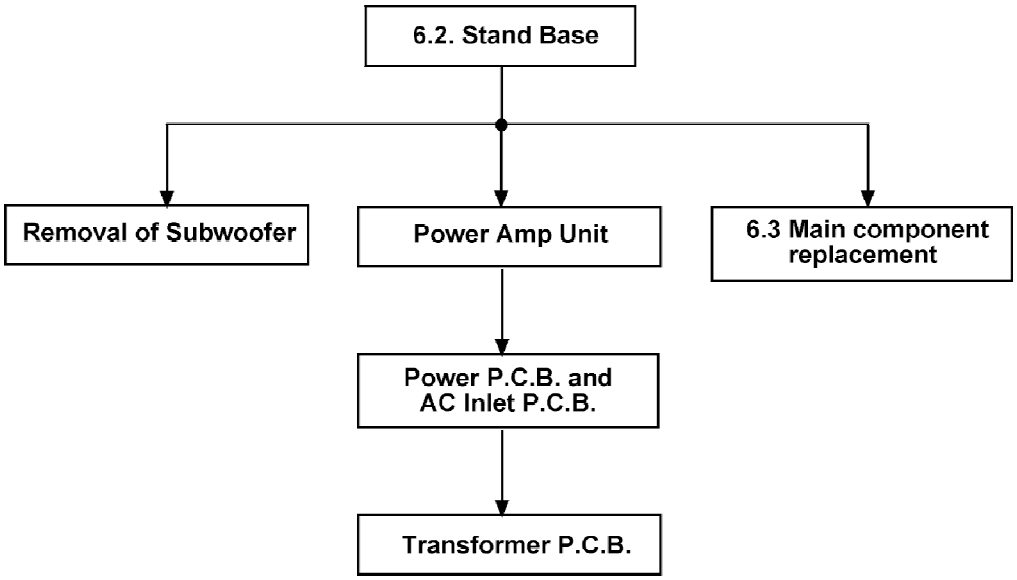
3. Select items from the following index when checks or replacement are required.

Contents

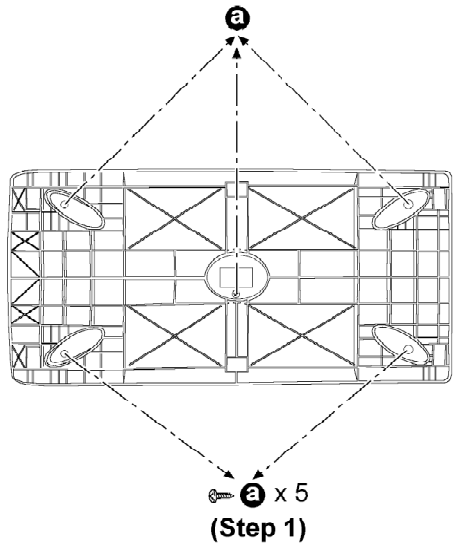
- Disassembly of the Speaker Unit
- Main Component Replacement Procedures

6.1. Disassembly flow chart

The following chart is the procedure for disassembling the casing and inside parts for internal inspection when carrying out the servicing.
To assemble the unit, reverse the steps shown in the chart below.

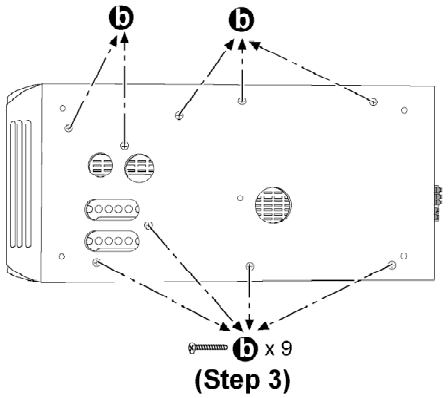


6.2. Disassembly of the Speaker Unit and Checking of the P.C.B.

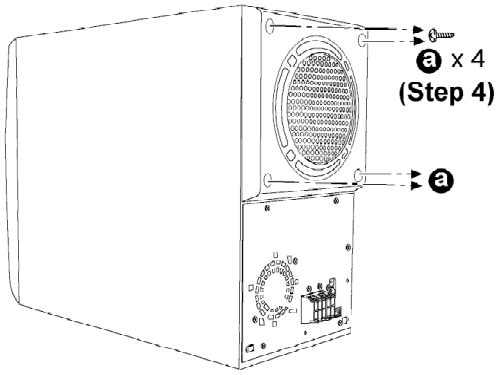


(Step 1)

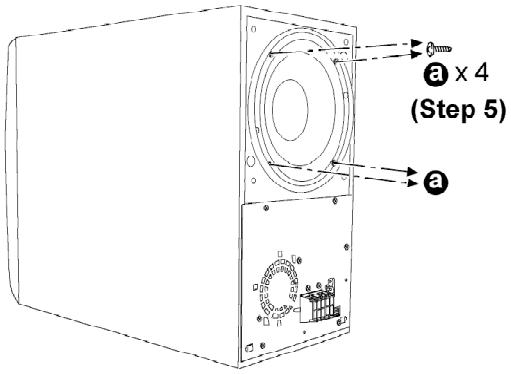
Step 1: Remove all the screws.
Step 2: Remove the stand base.



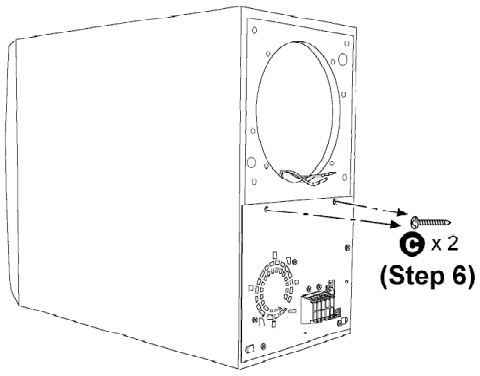
Step 3: Remove all the screws from the bottom of the speaker unit.



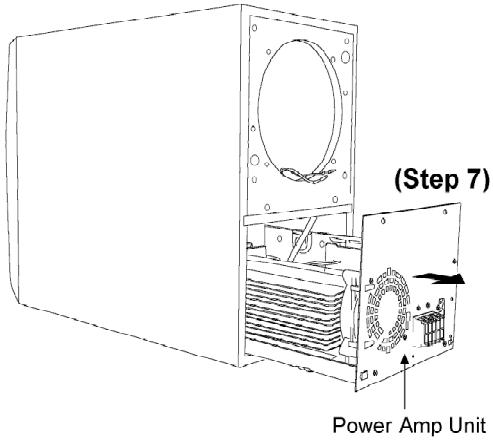
Step 4: Remove the screws from the rear panel's speaker unit guide.



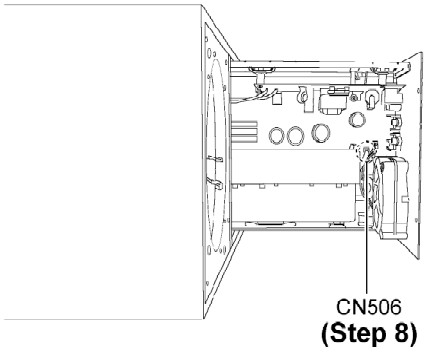
Step 5: Remove the screws from the subwoofer.



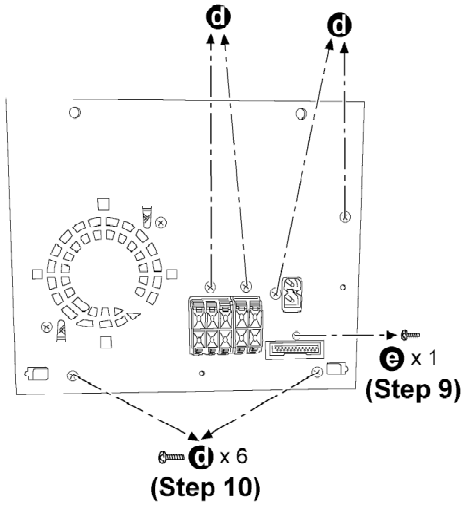
Step 6: Remove 2 screws from the Power Amp unit.



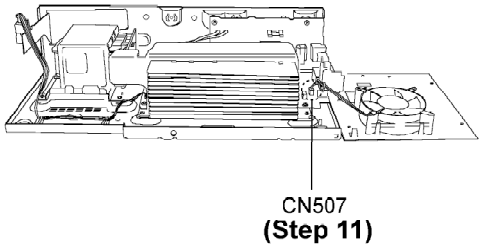
Step 7: Pull out the Power Amp unit slightly as shown.



Step 8: Release the connector CN506 then pull out the entire Power Amp unit.

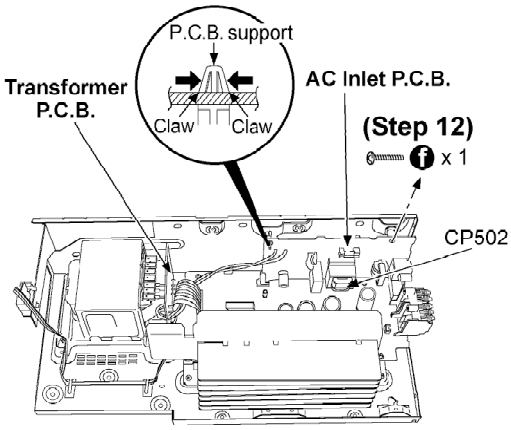


Steps 9 & 10: Remove all the screws.

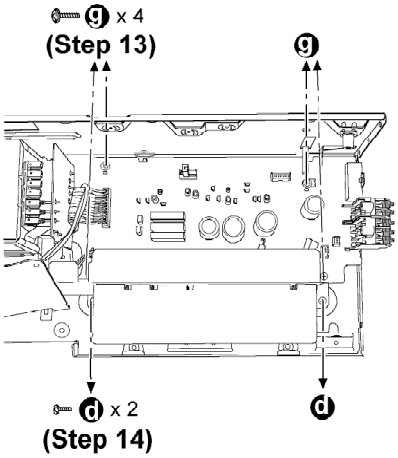


Step 11: Release the connector CN507 to remove the rear panel.

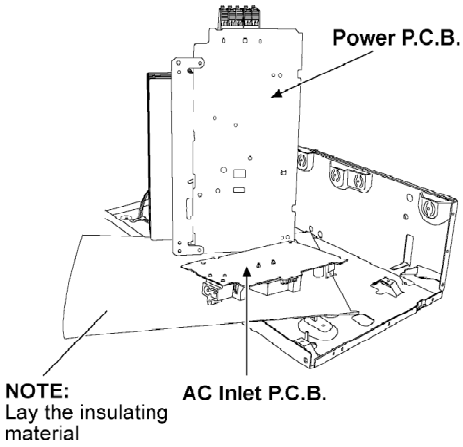
- Checking for the Power and AC Inlet P.C.B.



Step 12: Remove the screws from the AC Inlet P.C.B.

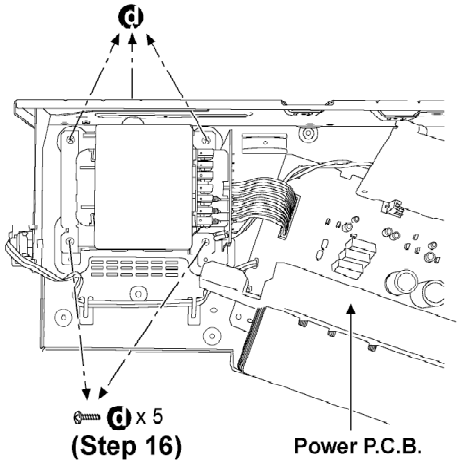


Steps 13 & 14: Remove the screws.

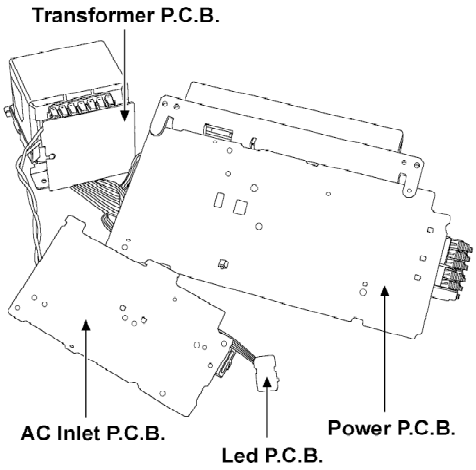


Step 15: Place the Power P.C.B. and the AC Inlet P.C.B. as shown for checking.

- Checking for the Transformer P.C.B.



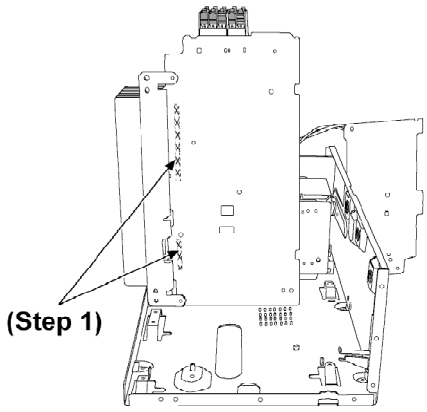
Step 16: Remove the screws.



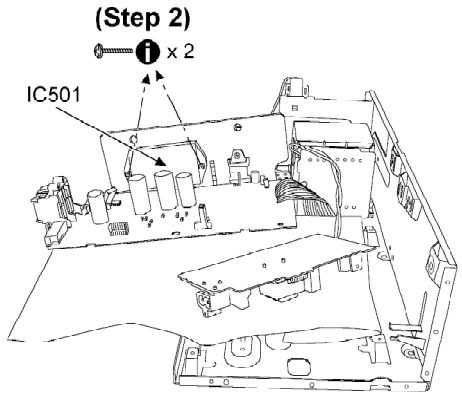
Step 17: Place the P.C.B. as shown for checking.

6.3. Main Component Replacement Procedures

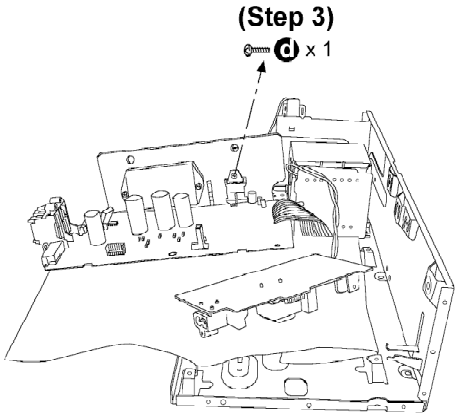
6.3.1. Replacement of the Power IC and Transistor



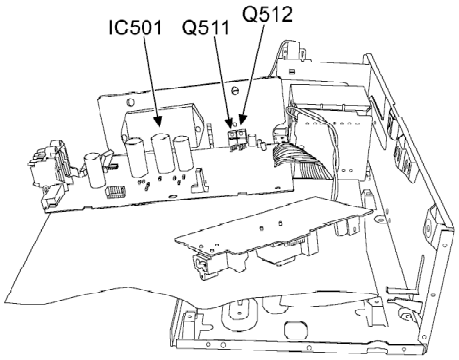
Step 1: Desolder the Power IC and Transistor terminals.



Step 2: Remove the screws from the IC501.

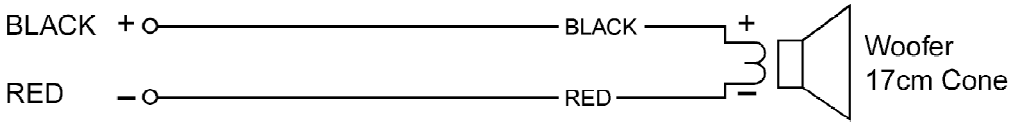


Step 3: Remove the screw.



Step 4: Replacement of the Power IC and Transistor.

7. Connection of the Speaker Wiring



8. Block Diagram

9. Schematic Diagram

(All schematic diagrams may be modified at any time with the development of the new technology)

Note:

- The voltage value and waveforms are the reference voltage of this unit measured by DC electronic voltmeter (high impedance) and oscilloscope on the basis of chassis. Accordingly, there may arise some error in voltage values and waveforms depending upon the internal impedance of the tester or the measuring unit.

- Importance safety notice :

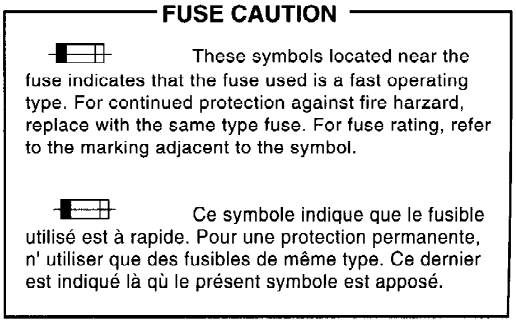
Components identified by ⚠ mark have special characteristics important for safety. Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used. When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.

Caution !

IC, LSI and VLSI are sensitive to static electricity.
Secondary trouble can be prevented by taking care during repair.

- **Cover the parts boxes made of plastics with aluminium foil.**
- **Put a conductive mat on the work table.**
- **Ground the soldering iron.**
- **Do not touch the pins of IC, LSI or VLSI with fingers directly.**

CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH SAME TYPE F1 6A , 125V FUSE.
RISK OF FIRE-REPLACE FUSE AS MARKED.


FUSE CAUTION
These symbols located near the fuse indicates that the fuse used is a fast operating type. For continued protection against fire harzard, replace with the same type fuse. For fuse rating, refer to the marking adjacent to the symbol.
Ce symbole indique que le fusible utilisé est à rapide. Pour une protection permanente, n' utiliser que des fusibles de même type. Ce dernier est indiqué là qù le présent symbole est apposé.

10. Printed Circuit Board

11. Wiring Connection Diagram

12. Illustration of IC's, Transistors and Diodes

13. Parts Location and Replacement Parts List

Notes:

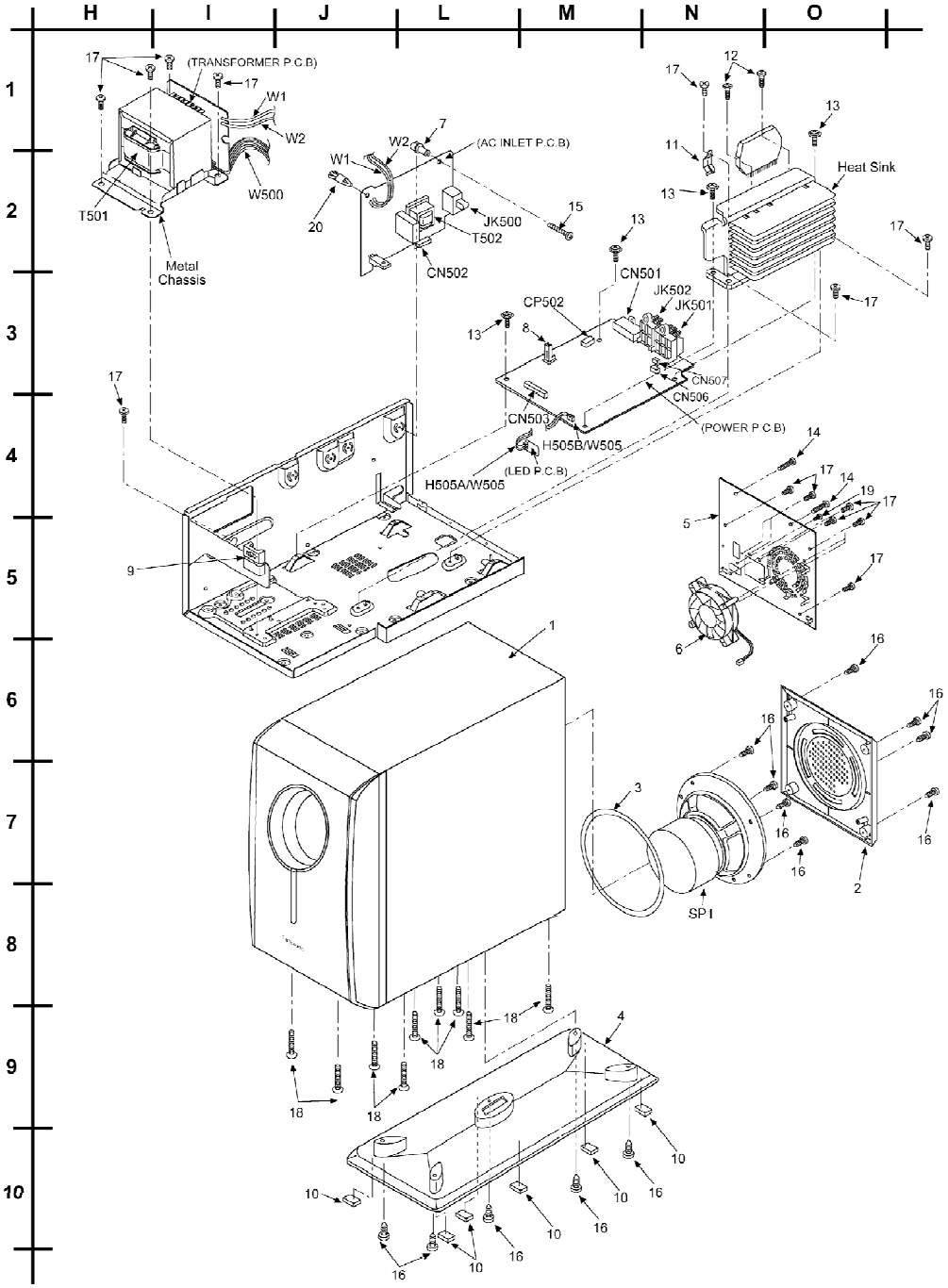
- **Important safety notice:**
  Components identified by ⚠ mark have special characteristics important for safety.

Furthermore, special parts which have purposes of fire-retardent (resistors), high-quality sound (capacitors), low noise (resistors), etc are used.
When replacing any of these components, be sure to use only manufacturer's specified parts shown in the parts list.

- **The parenthesized indications in the Remarks columns specify the areas or colour. (Refer to the cover page for area or colour) Parts without these indications can be used for all areas.**
- **Capacitor values are in microfarads (μ F) unless specified otherwise, P= Pico-farads (pF), F= Farads.**
- **Resistance values are in ohms, unless specified otherwise, 1K= 1,000 (OHM).**
- **The marking (RTL) indicates that the Retention Time is limited for this items. After the discontinuation of this assembly in production, the item will continue to be available for a specific period of time. The retention period of a availability is dependent on the type of assembly, and in accordance with the laws governing part and product retention. After the end of this period, the assembly will no longer be available.**
- **[M] Markings in the Remarks columns indicates parts supplied by PAVCSG.**
- **The "(SF)" mark denotes the standard part.**

13.1. Cabinet

13.1.1. Cabinet Parts Location



13.1.2. Cabinet Parts List

Ref. No.	Part No.	Part Name & Description	Remarks
		CABINET AND CHASSIS	
1	RFKHBWA720PP	SUBWOOFER ASS'Y	[M]
2	RMVX0077-J	SPEAKER UNIT GUARD	[M]
3	RMQX0088-J	EVA PACKING	[M]
4	RGKX0255-SJ	STAND ORNAMENT	[M]
5	RGRX0033A-HJ	REAR PANEL	[M]
6	REM0072-3	FAN	[M]
7	SHE187-6J	PCB SUPPORT	[M]
8	RMN0203	PCB HOLDER	[M]
9	RMRX0047-J	LED HOLDER	[M]
10	RKAX0018-KJ	LEG CUSHION	[M]
11	RMC0158-S	TR-FIXTURE	[M]
12	XTW3+15T	SCREW	[M]
13	RHD30092	SCREW	[M]
14	XTB3+16AFZ	SCREW	[M]
15	XTB3+20JFZ	SCREW	[M]
16	XTB4+15AFZ	SCREW	[M]
17	XTBS3+8JFZ1	SCREW	[M]
18	XTS4+20JFZ	SCREW	[M]
19	XYC26+CJ6FZ	SCREW	[M]
20	RMNX0135	SPACER	[M]

13.2. Electrical Parts List

Ref. No.	Part No.	Part Name & Description	Remarks
		PRINTED CIRCUIT BOARD	
	REPX0430A	POWER P.C.B./ AC INLET P.C.B./ TRANSFORMER P.C.B./ LED P.C.B.	[M] (RTL)
		INTEGRATED CIRCUITS	
IC501	RSN311W64B-P	IC HIC	[M]
IC502	C0AABB000055	IC AMP	[M]
		TRANSISTORS	
Q501	KTC3199GRTA	TRANSISTOR	[M]
Q502	KTC3199GRTA	TRANSISTOR	[M]
Q503	KTC3199GRTA	TRANSISTOR	[M]
Q505	KTC3199GRTA	TRANSISTOR	[M]
Q506	B1GCCFJJ0015	TRANSISTOR	[M]
Q511	KTC2026	TRANSISTOR	[M]
Q512	KTA1046	TRANSISTOR	[M]
Q513	KTC3199GRTA	TRANSISTOR	[M]
Q514	KTC3199GRTA	TRANSISTOR	[M]
Q515	KTC3199GRTA	TRANSISTOR	[M]
Q516	KRC102MTA	TRANSISTOR	[M]
Q517	KTC2026	TRANSISTOR	[M]
Q519	KTC3199GRTA	TRANSISTOR	[M]
Q520	B1GCCFJJ0015	TRANSISTOR	[M]
Q552	KTA1267GRTA	TRANSISTOR	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
Q553	2SD0592ARA	TRANSISTOR	[M]
Q554	KTA1267GRTA	TRANSISTOR	[M]
Q555	2SD0592ARA	TRANSISTOR	[M]
Q556	KTA1267GRTA	TRANSISTOR	[M]
Q557	2SD0592ARA	TRANSISTOR	[M]
		DIODES	
D500	B0AACK000004	DIODE	[M]
D501	B0JAPG000019	DIODE	[M]
D502	B0JAPG000019	DIODE	[M]
D503	MA2C700A0F	DIODE	[M]
D504	B0AACK000004	DIODE	[M]
D508	B0AACK000004	DIODE	[M]
D509	B0BA5R100013	DIODE	[M]
D510	B0BA5R100013	DIODE	[M]
D524	SLI325URCT31	DIODE	[M]
D525	B0BA6R600008	DIODE	[M]
D527	B0EAKM000122	DIODE	[M]
D528	B0EAKM000122	DIODE	[M]
D533	B0BA5R100013	DIODE	[M]
D555	B0AACK000004	DIODE	[M]
D556	B0BA9R600002	DIODE	[M]
D557	B0EAKM000117	DIODE	[M]
D558	B0AACK000004	DIODE	[M]
D559	B0AACK000004	DIODE	[M]
D560	B0AACK000004	DIODE	[M]
D561	B0BA01200008	DIODE	[M]
D562	B0AACK000004	DIODE	[M]
D563	B0BA01900005	DIODE	[M]
D564	B0BA01900005	DIODE	[M]
D565	B0BA01900005	DIODE	[M]
D566	B0BA01900005	DIODE	[M]
D597	B0FBAM000009	DIODE	[M]
D598	B0FBAM000009	DIODE	[M]
D599	B0FBAM000009	DIODE	[M]
		CONNECTORS	
CN501	K1FB125B0095	SYSTEM CONNECTOR	[M]
CN502	K1KB07B00020	2P CONNECTOR	[M]
CN503	RJT119W15V	15P WIRE HOLDER	[M]
CN506	K1KA03A00006	CONNECTOR	[M]
CN507	K1KA02A00008	CONNECTOR	[M]
CP502	K1KA07A00123	2P CONNECTOR	[M]
		COILS & TRANSFORMERS	
L500	RLQZ371	LINE FILTER	[M] ⚠
T501	ETP76VUUE1WA	POWER TRANSFORMER	[M] ⚠
T502	G4C2AAJ00005	BACK-UP TRANSFORMER	[M] ⚠

Ref. No.	Part No.	Part Name & Description	Remarks
		COMPONENT COMBINATION	
Z501	ERZV10V511CS	ZENER	[M] ⚠
		SPEAKER	
SP1	L0AA17A00003	WOOFER	[M]
		RELAY	
RLY501	RSY0040M-0	PRIMARY RELAY	[M] ⚠
		FUSES	
F1	K5D502AQ0004	FUSE	[M] ⚠
		FUSE HOLDERS	
FC501	EYF52BC	FUSE HOLDER	[M]
FC502	EYF52BC	FUSE HOLDER	[M]
		FUSE PROTECTOR	
FP1	K5G502AA0002	5A FUSE PROTECTOR	[M] ⚠
		HOLDERS	
H500	K1YF15000004	15P WIRE HOLDER	[M]
H505A	K1YZ03000010	3P CABLE HOLDER	[M]
H505B	K1YZ03000010	3P CABLE HOLDER	[M]
		JACKS	
JK500	K2AB2B000002	JK AC INLET	[M] ⚠
JK501	K4BC06B00043	JK	[M]
JK502	K4BC04B00075	JK SPEAKER	[M]
		EARTH TERMINAL	
E500	K4CZ01000027	TERMINALS	[M]
E501	K4CZ01000027	TERMINALS	[M]
		WIRES	
W1	REEX0365	PRI WIRE (BROWN)	[M]
W2	REEX0364	PRI WIRE (BLUE)	[M]
W500	REXX0361	15P TRANS TO PWR	[M]
W505	RWJ1103280XX	3P STRAND TYPE WIRE	[M]
		RESISTORS	
R401	ERDS2TJ224T	220K 1/4W	[M]
R402	ERDS2TJ102T	1K 1/4W	[M]
R403	ERDS2TJ104T	100K 1/4W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R500	ERC12UGK335D	3.3M 1/2W	[M]
R501	ERDS2TJ472T	4.7K 1/4W	[M]
R502	ERDS2TJ472T	4.7K 1/4W	[M]
R503	ERDS2TJ153T	15K 1/4W	[M]
R504	ERDS2TJ153T	15K 1/4W	[M]
R505	ERDS2TJ153T	15K 1/4W	[M]
R506	ERDS2TJ153T	15K 1/4W	[M]
R507	ERDS2TJ392T	3.9K 1/4W	[M]
R508	ERDS2TJ392T	3.9K 1/4W	[M]
R509	ERDS2TJ472T	4.7K 1/4W	[M]
R510	ERDS2TJ472T	4.7K 1/4W	[M]
R511	ERDS2TJ153T	15K 1/4W	[M]
R512	ERDS2TJ153T	15K 1/4W	[M]
R513	ERDS2TJ563T	56K 1/4W	[M]
R514	ERDS2TJ563T	56K 1/4W	[M]
R515	ERDS2TJ563T	56K 1/4W	[M]
R516	ERDS2TJ563T	56K 1/4W	[M]
R517	ERDS2TJ563T	56K 1/4W	[M]
R518	ERDS2TJ563T	56K 1/4W	[M]
R519	ERDS2TJ824T	820K 1/4W	[M]
R520	ERDS2TJ223T	22K 1/4W	[M]
R521	ERDS2TJ103T	10K 1/4W	[M]
R522	ERDS2TJ273T	27K 1/4W	[M]
R523	ERDS2TJ124T	120K 1/4W	[M]
R524	ERDS2TJ124T	120K 1/4W	[M]
R525	ERDS2TJ154T	150K 1/4W	[M]
R526	ERDS2TJ124T	120K 1/4W	[M]
R527	ERDS2TJ124T	120K 1/4W	[M]
R528	ERDS2TJ154T	150K 1/4W	[M]
R529	ERDS2TJ223T	22K 1/4W	[M]
R530	ERD25FVJ1R0T	1 1/4W	[M]
R531	ERD25FVJ1R0T	1 1/4W	[M]
R532	ERDS2TJ472T	4.7K 1/4W	[M]
R533	ERDS1FVJ100T	10 1/2W	[M]
R534	ERDS1FVJ100T	10 1/2W	[M]
R535	ERDS1FVJ100T	10 1/2W	[M]
R536	ERDS1FVJ100T	10 1/2W	[M]
R537	ERDS1FVJ100T	10 1/2W	[M]
R538	ERDS1FVJ100T	10 1/2W	[M]
R539	ERDS2TJ101T	100 1/4W	[M]
R540	ERDS2TJ101T	100 1/4W	[M]
R541	ERDS2TJ101T	100 1/4W	[M]
R542	ERDS2TJ101T	100 1/4W	[M]
R543	ERDS2TJ101T	100 1/4W	[M]
R544	ERDS2TJ101T	100 1/4W	[M]
R545	ERDS2TJ224T	220K 1/4W	[M]
R546	ERDS2TJ102T	1K 1/4W	[M]
R547	ERDS2TJ394T	390K 1/4W	[M]
R548	ERDS2TJ334T	330K 1/4W	[M]
R549	ERDS2TJ472T	4.7K 1/4W	[M]
R558	ERDS2TJ104T	100K 1/4W	[M]
R559	ERDS2TJ103T	10K 1/4W	[M]
R560	ERDS2TJ151T	150 1/4W	[M]
R561	ERDS1FVJ392T	3.9K 1/2W	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
R562	ERDS2TJ472T	4.7K 1/4W	[M]
R563	ERDS2TJ332T	3.3K 1/4W	[M]
R564	ERDS2TJ224T	220K 1/4W	[M]
R565	ERDS1FVJ392T	3.9K 1/2W	[M]
R566	ERG2SJ220E	22 2W	[M]
R567	ERDS1FVJ152T	1.5K 1/2W	[M]
R568	ERDS2TJ151T	150 1/4W	[M]
R569	ERDS1FVJ392T	3.9K 1/2W	[M]
R570	ERDS2TJ103T	10K 1/4W	[M]
R571	ERDS2TJ332T	3.3K 1/4W	[M]
R572	ERDS2TJ223T	22K 1/4W	[M]
R573	D0XGR10JA005	0.1 1/10W	[M]
R575	ERDS2TJ682T	6.8K 1/4W	[M]
R577	ERDS2TJ152T	1.5K 1/4W	[M]
R578	ERDS2TJ103T	10K 1/4W	[M]
R579	ERDS2TJ332T	3.3K 1/4W	[M]
R580	ERDS2TJ220T	22 1/4W	[M]
R581	ERDS2TJ103T	10K 1/4W	[M]
R582	ERDS2TJ221T	220 1/4W	[M]
R583	ERDS2TJ101T	100 1/4W	[M]
R584	ERDS2TJ303T	30K 1/4W	[M]
R587	ERDS2TJ272T	2.7K 1/4W	[M]
R588	ERDS2TJ151T	150 1/4W	[M]
R589	ERDS2TJ103T	10K 1/4W	[M]
R590	ERDS2TJ102T	1K 1/4W	[M]
R591	ERDS2TJ682T	6.8K 1/4W	[M]
R592	ERDS2TJ683T	68K 1/4W	[M]
R593	ERDS2TJ474T	470K 1/4W	[M]
R594	ERDS2TJ103T	10K 1/4W	[M]
R595	ERDS2TJ101T	100 1/4W	[M]
R596	ERDS2TJ473T	47K 1/4W	[M]
R597	ERDS2TJ103T	10K 1/4W	[M]
R598	ERDS1FVJ152T	1.5K 1/2W	[M]
R599	ERDS2TJ223T	22K 1/4W	[M]
R600	ERDS2TJ473T	47K 1/4W	[M]
R601	ERDS2TJ473T	47K 1/4W	[M]
R602	ERDS2TJ472T	4.7K 1/4W	[M]
R603	ERDS2TJ103T	10K 1/4W	[M]
R604	ERDS2TJ125T	1.2M 1/4W	[M]
R605	ERG2SJ220E	22 2W	[M]
R606	ERG2SJ220E	22 2W	[M]
R607	ERG2SJ220E	22 2W	[M]
R608	ERDS1FVJ152T	1.5K 1/2W	[M]
R609	ERDS1FVJ152T	1.5K 1/2W	[M]
R610	ERD2FCVJ4R7T	4.7 1/4W	[M]
		CAPACITORS	
C500	ECKWRS102MBC	1000P 400V	[M]
C501	ECBT1H102KB5	1000P 50V	[M]
C502	ECBT1H102KB5	1000P 50V	[M]
C503	ECBT1H102KB5	1000P 50V	[M]
C504	ECBT1H102KB5	1000P 50V	[M]
C505	ECBT1H102KB5	1000P 50V	[M]

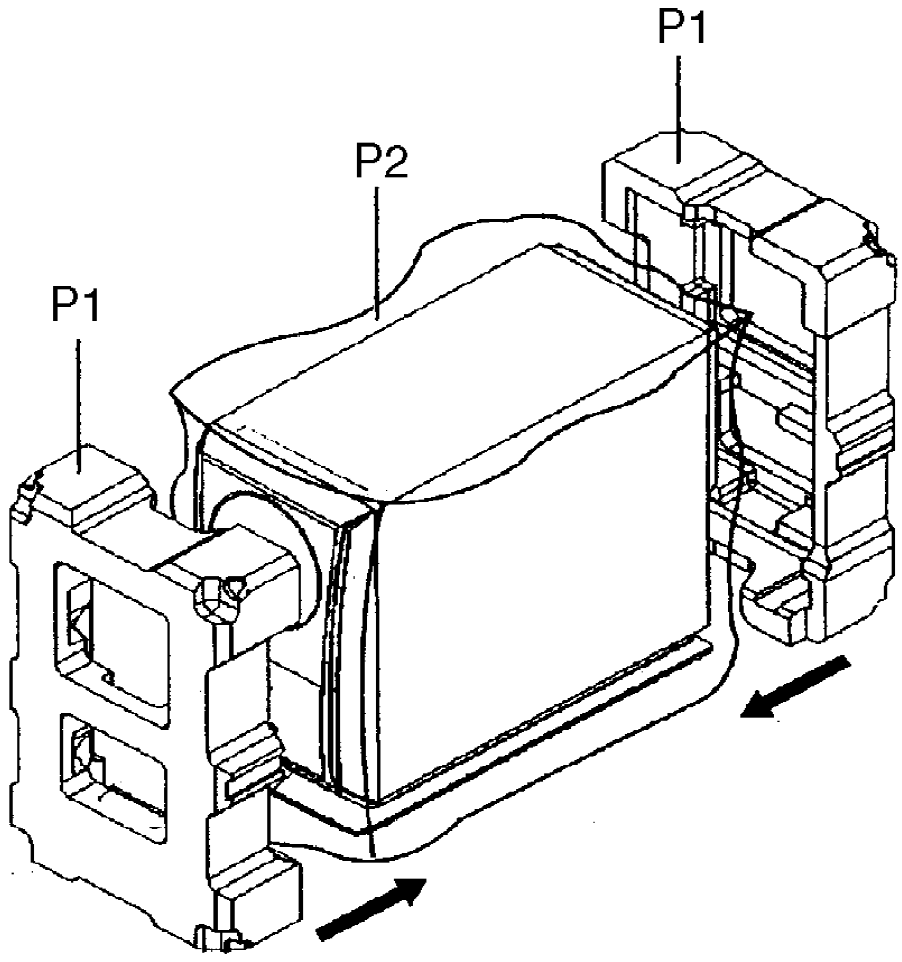
Ref. No.	Part No.	Part Name & Description	Remarks
C506	ECBT1H102KB5	1000P 50V	[M]
C507	ECBT1H180JC5	18P 50V	[M]
C508	ECBT1H180JC5	18P 50V	[M]
C509	ECBT1H220JC5	22P 50V	[M]
C510	ECBT1H220JC5	22P 50V	[M]
C511	ECBT1H220JC5	22P 50V	[M]
C512	ECBT1H220JC5	22P 50V	[M]
C513	F1D1H473A012	0.047 50V	[M]
C514	ECEA0JKA101B	100 6.3V	[M]
C515	ECKR2H103ZF5	0.01 500V	[M]
C516	ECKR2H103ZF5	0.01 500V	[M]
C517	ECBT1C103NS5	0.01 16V	[M]
C518	F1D1H473A012	0.047 50V	[M]
C519	F1D1H473A012	0.047 50V	[M]
C520	F1D1H473A012	0.047 50V	[M]
C521	F1D1H473A012	0.047 50V	[M]
C522	F1D1H473A012	0.047 50V	[M]
C523	F1D1H473A012	0.047 50V	[M]
C529	F1D1H1040002	0.1 50V	[M]
C530	ECBT1H102KB5	1000P 50V	[M]
C531	ECBT1H102KB5	1000P 50V	[M]
C532	ECBT1H102KB5	1000P 50V	[M]
C533	ECBT1H102KB5	1000P 50V	[M]
C534	ECA1HM330B	33 50V	[M]
C543	ECBT1H102KB5	1000P 50V	[M]
C544	ECA1HM101B	100 50V	[M]
C545	F1D1H1040002	0.1 50V	[M]
C546	ECA1SM332B	3300 100V	[M]
C547	ECA1SM472B	4700 100V	[M]
C548	ECA1SM472B	4700 100V	[M]
C549	ECA1SM332B	3300 100V	[M]
C550	ECBT1C103NS5	0.01 16V	[M]
C551	ECBT1H103KB5	0.01 50V	[M]
C553	ECQE1104KF3	0.1 100V	[M]
C554	ECQE1104KF3	0.1 100V	[M]
C555	ECEA1VKA4R7B	4.7 35V	[M]
C556	ECBT1H103KB5	0.01 50V	[M]
C557	ECEA1AKA470B	47 10V	[M]
C559	ECBT1H103KB5	0.01 50V	[M]
C560	ECA1HM100B	10 50V	[M]
C561	ECEA1HKA2R2B	2.2 50V	[M]
C562	ECQB1H562JF3	5600P 50V	[M]
C563	ECQV1H823JL3	0.082 50V	[M]
C564	ECBT1C122KR5	1200P 16V	[M]
C565	F1D1H1040002	0.1 50V	[M]
C566	F1D1H1040002	0.1 50V	[M]
C567	ECA1HM100B	10 50V	[M]
C568	ECBT1C103NS5	0.01 16V	[M]
C569	F1D1H473A012	0.047 50V	[M]
C570	ECA1CM471B	470 16V	[M]
C571	ECA1CM102B	1000 16V	[M]
C572	ECA1HM101B	100 50V	[M]
C573	ECBT1H102KB5	1000P 50V	[M]
C574	ECBT1H103KB5	0.01 50V	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
C575	ECBT1H103KB5	0.01 50V	[M]
C576	RCE1HKN100BG	10P 50V	[M]
C577	ECEA1CKA100B	10 16V	[M]
C578	ECBT1H103KB5	0.01 50V	[M]
C579	ECBT1H103KB5	0.01 50V	[M]
C580	ECEA1HKA100B	10 50V	[M]
C581	ECA1CM102B	1000 16V	[M]
C647	ECA1HM101B	100 50V	[M]

13.3. Packing Materials & Accessories Parts List

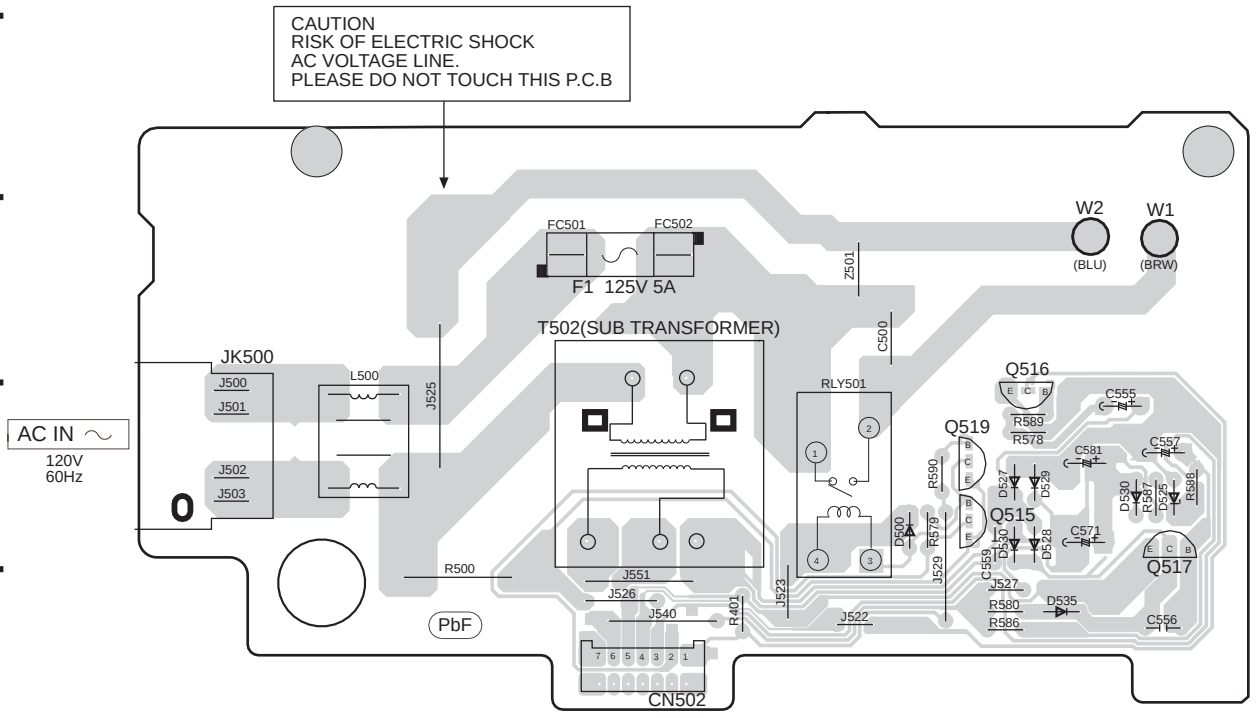
Ref. No.	Part No.	Part Name & Description	Remarks
		PACKING MATERIALS	
P1	RPNX0235	POLYFOAM	[M]
P2	RPFX0071	MIRAMAT BAG	[M]

13.4. Packaging

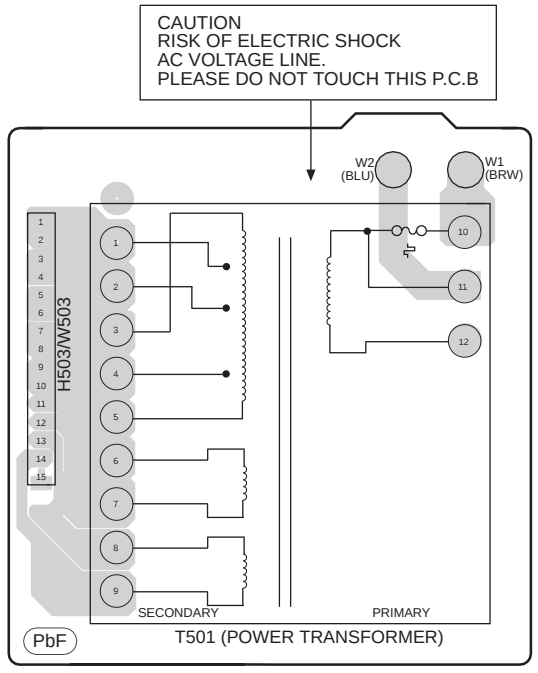


FLE0401/P/A/S/E/N

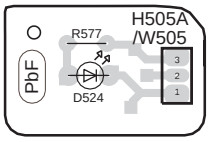
B AC INLET P.C.B (REPX0430A)



C TRANSFORMER P.C.B (REPX0430A)



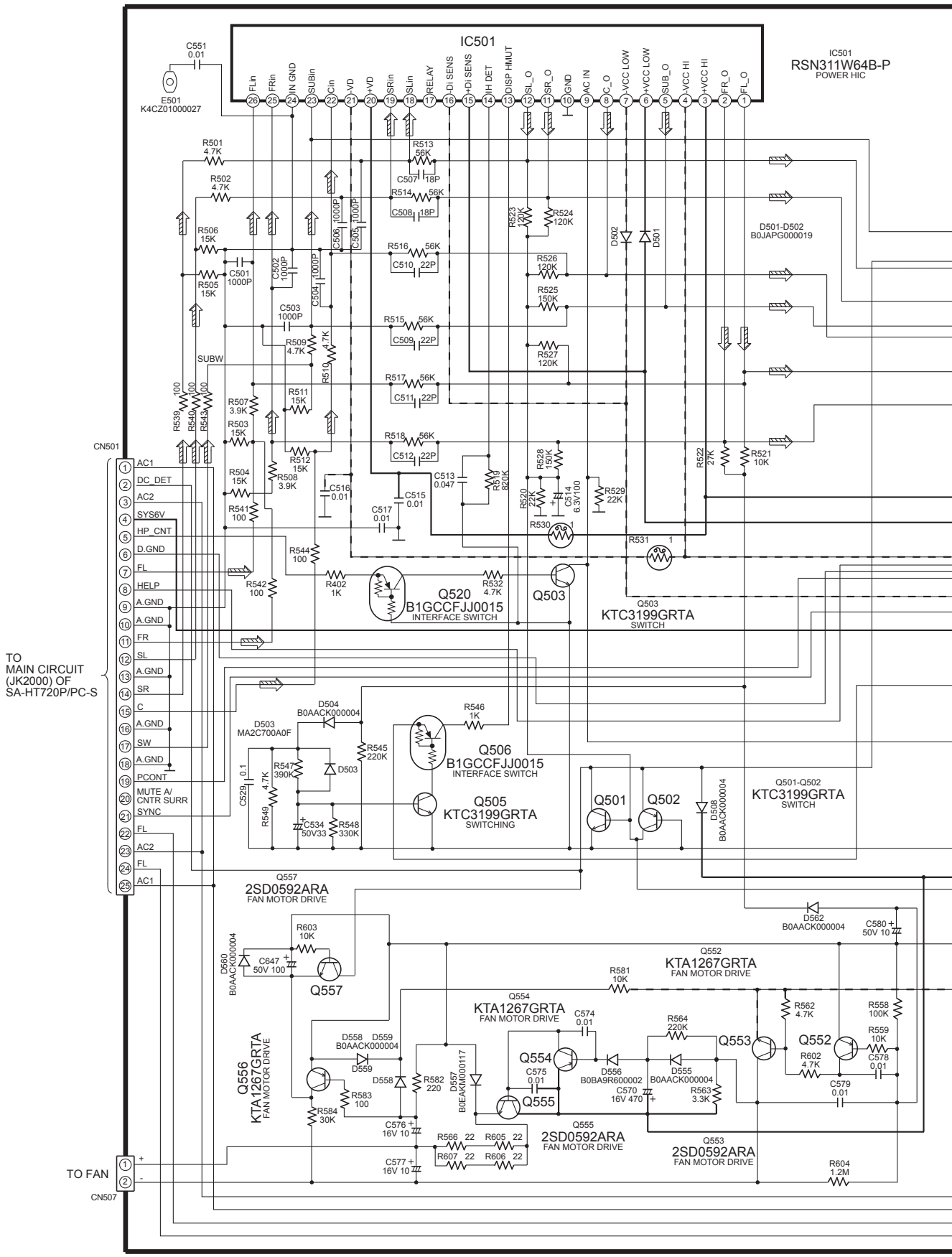
D LED P.C.B (REPX0430A)



SCHEMATIC DIAGRAM-1

A POWER CIRCUIT

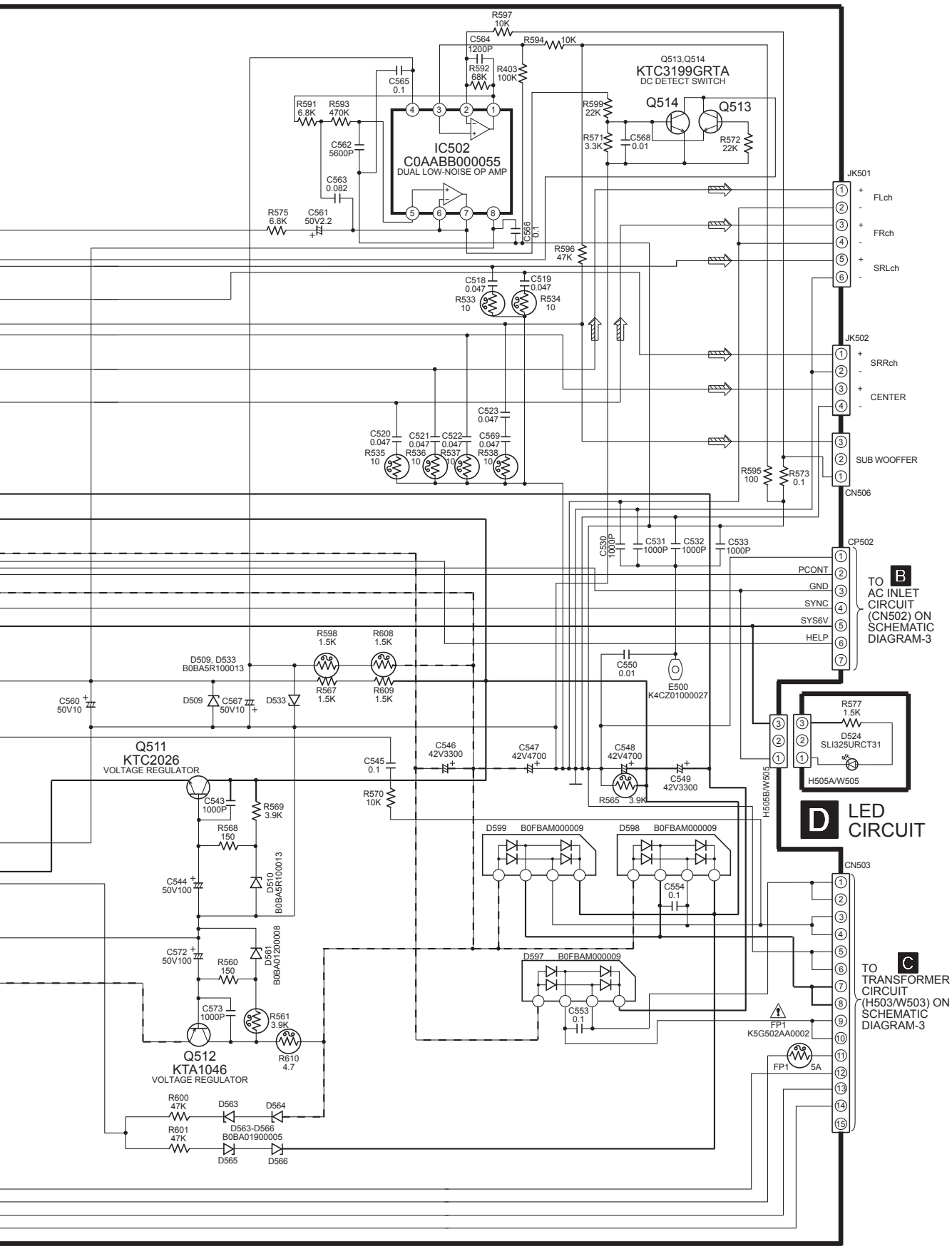
: -B SIGNAL LINE
: +B SIGNAL LINE
: MAIN SIGNAL LINE



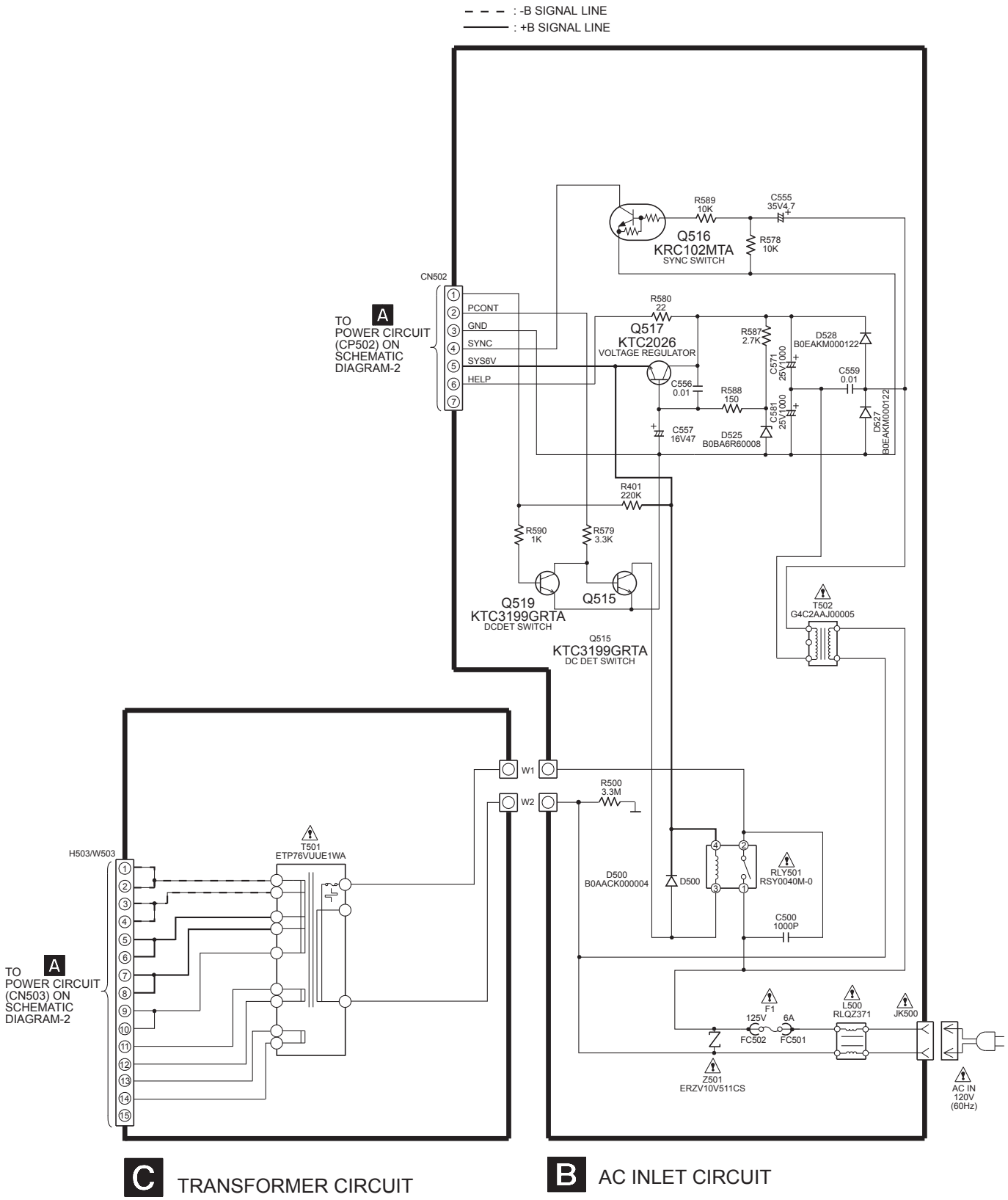
SCHEMATIC DIAGRAM-2

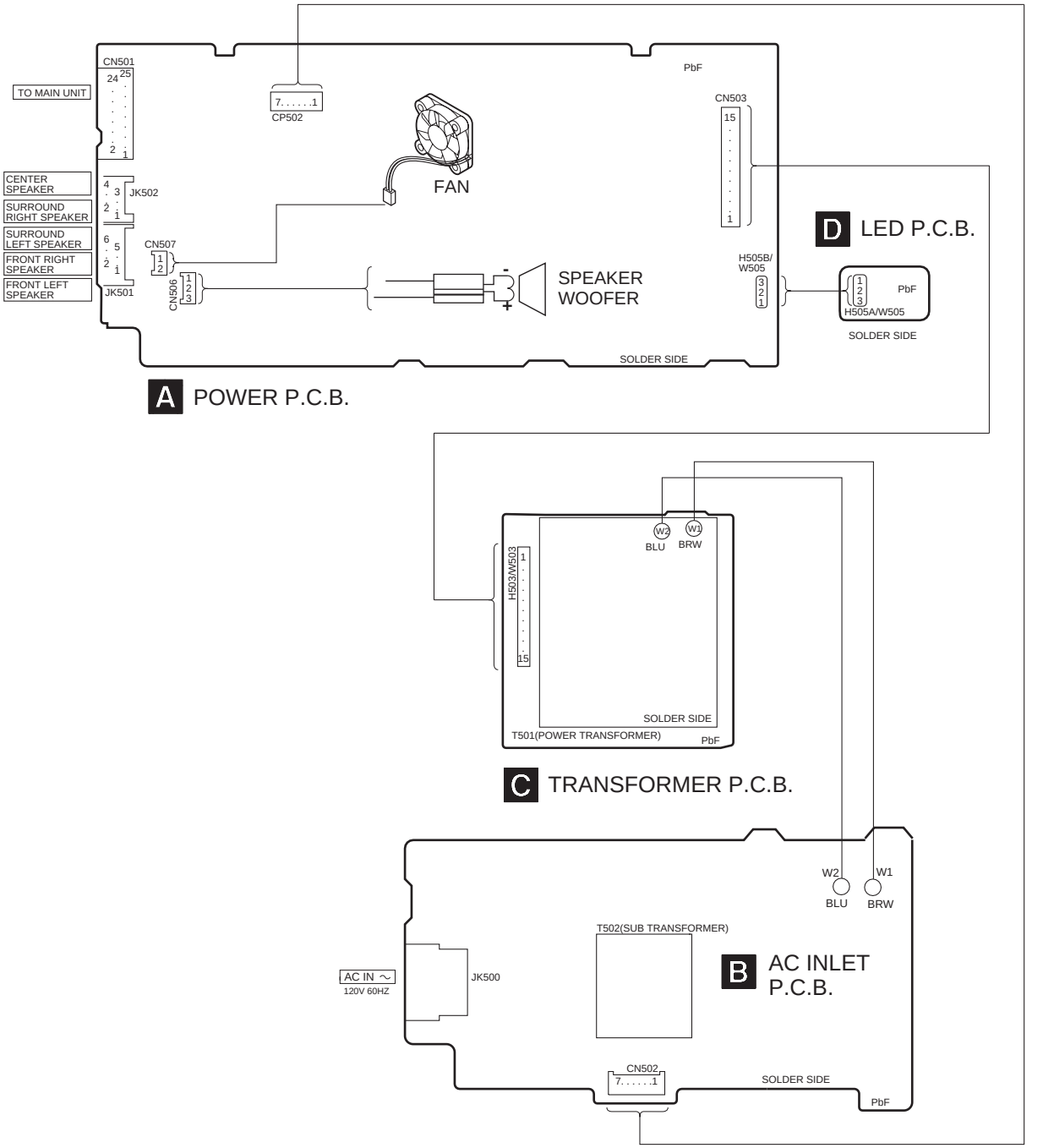
A POWER CIRCUIT

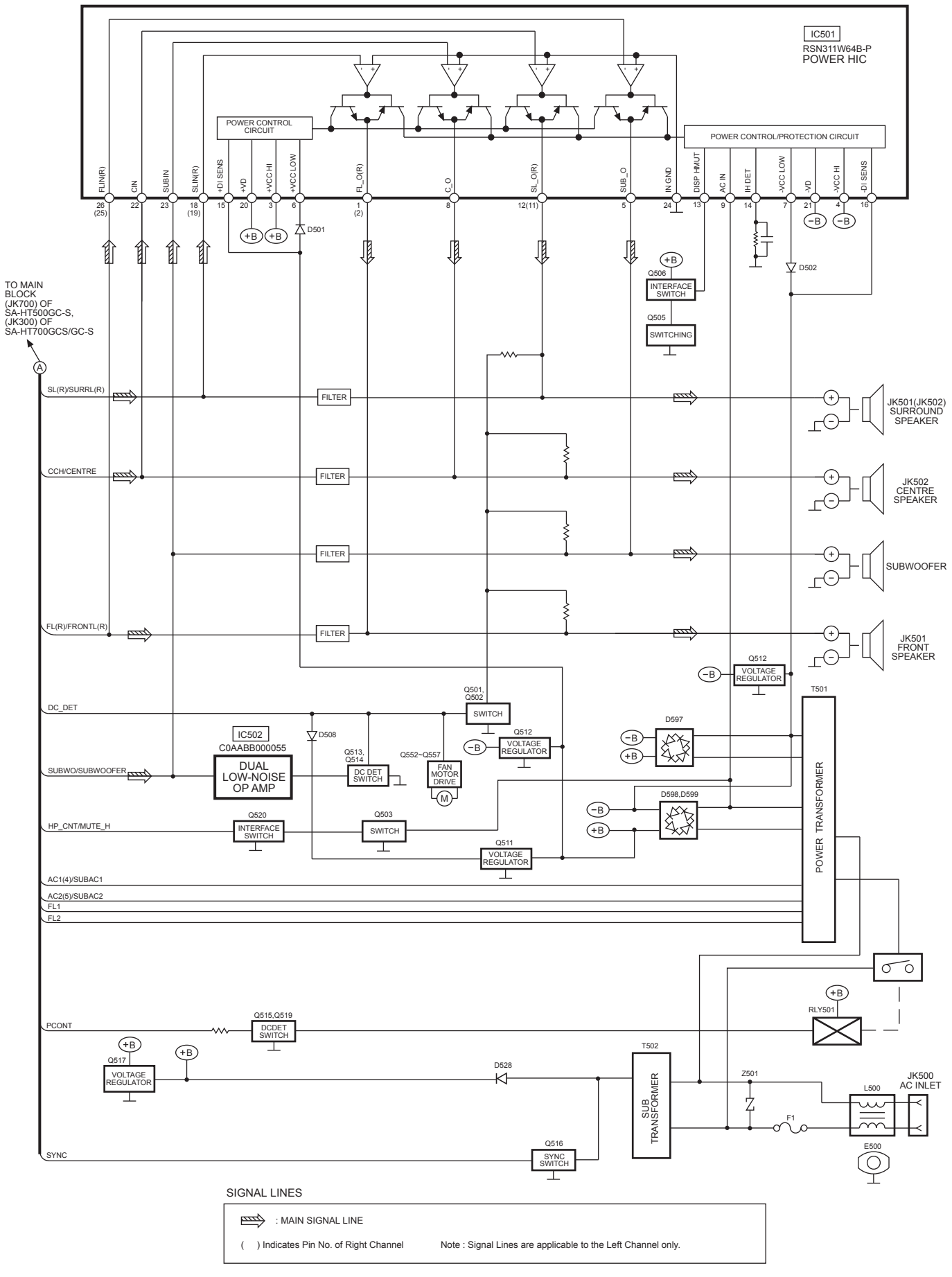
: -B SIGNAL LINE
: +B SIGNAL LINE
: MAIN SIGNAL LINE



SCHEMATIC DIAGRAM-3




TO MAIN UNIT
CN501
24
25
1
2
CP502
7. 1
FAN
PbF
CN503
15
1
D LED P.C.B.
CENTER SPEAKER
SURROUND RIGHT SPEAKER
SURROUND LEFT SPEAKER
FRONT RIGHT SPEAKER
FRONT LEFT SPEAKER
JK502
JK501
CN507
CN506
SPEAKER WOOFER
H505B/ W505
H505A/W505
SOLDER SIDE
A POWER P.C.B.
W2
W1
BLU
BRW
H503/W503
T501(POWER TRANSFORMER)
C TRANSFORMER P.C.B.
T502(SUB TRANSFORMER)
AC IN ~
120V 60HZ
JK500
B AC INLET P.C.B.
CN502

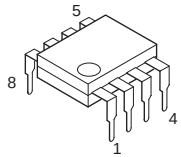
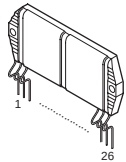
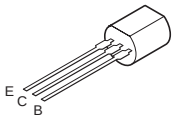
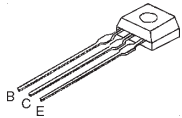
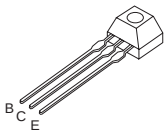
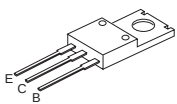
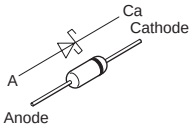
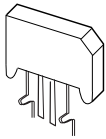
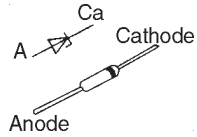
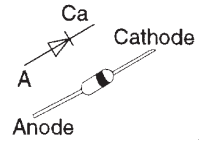
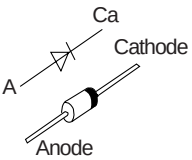
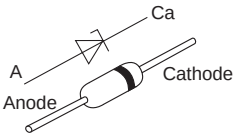
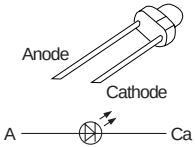
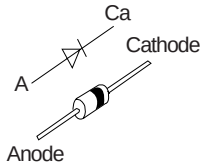


SIGNAL LINES

: MAIN SIGNAL LINE

( ) Indicates Pin No. of Right Channel

Note : Signal Lines are applicable to the Left Channel only.

C0AABB000055 	RSN311W64B-P 	KTA1267GRTA 2SD0592ARA 	KTC3199GRTA 	B1GCCFJJ0015 KRC102MTA 
KTC2026 KTA1046 	MA2C700A0F 	B0FBAM000009 	B0BA9R600002 B0BA01900005 	B0AACK000004 
B0JAPG000019 B0EAKM000117 	B0BA6R600008 B0BA5R100013 B0BA01200008 	SLI325URCT31 	B0EAKM000122 	

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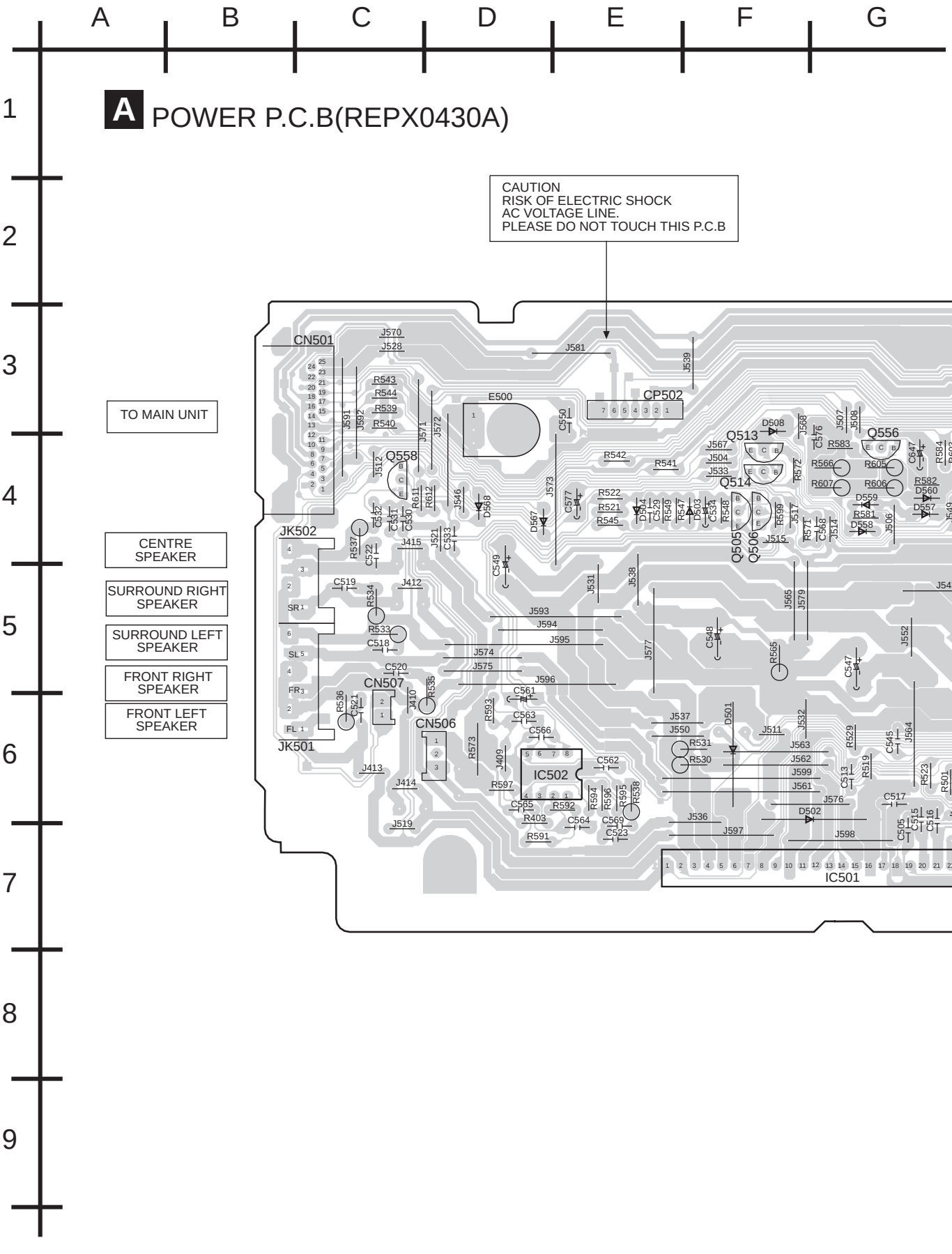

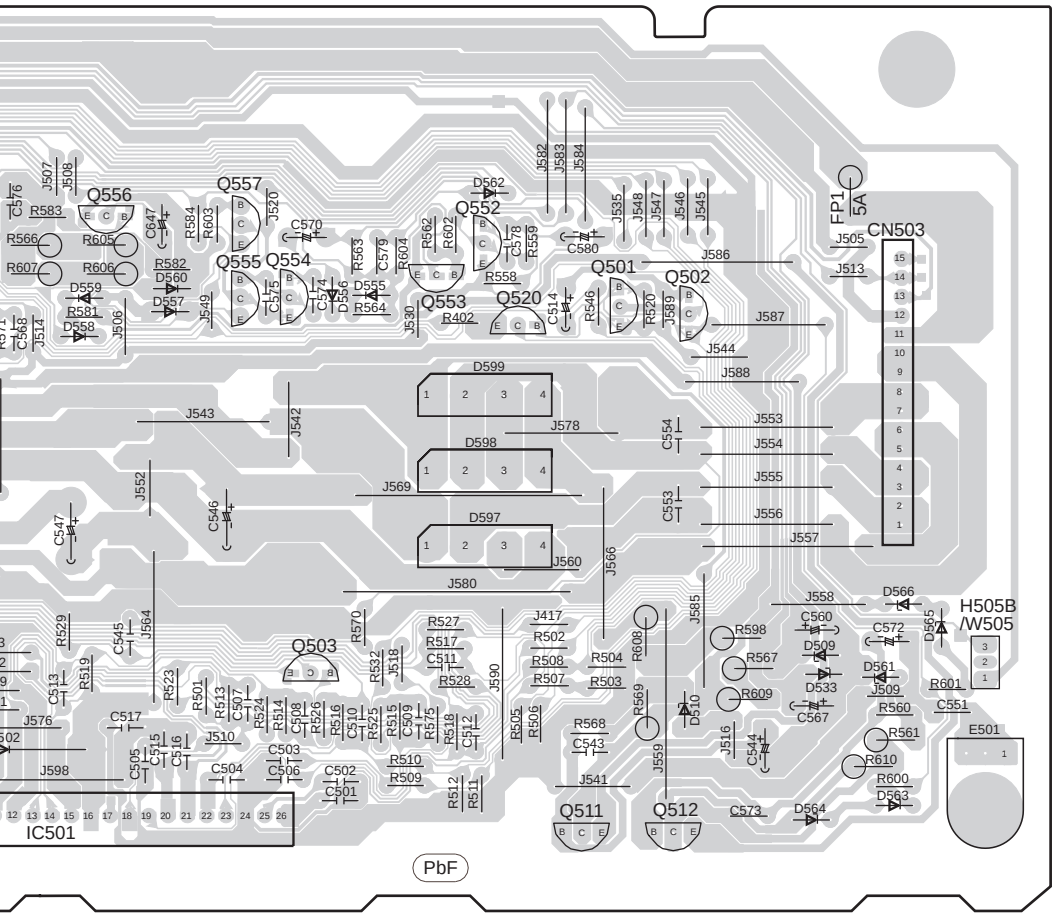
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